

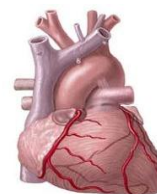
Health Factsheet

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Trends of Acute Myocardial Infarction (AMI) in Singapore

KEY FACTS TO REMEMBER

- Cardiovascular diseases, including acute myocardial infarction (AMI), are among the top five killers in Singapore and globally.
- The number and rate of AMI among men are twice that of women.
- Recent data showed that Malays and Indians have similarly high incidence rates of AMI.
- AMI can be prevented by maintaining a healthy lifestyle e.g. healthy diet, not smoking, regular exercise, early detection and treatment for diabetes, high blood pressure and high blood cholesterol.



OBJECTIVES

This information paper provides an overview of the rate of acute myocardial infarction (AMI) from 2007 to 2011, its associated risks factors and ways to reduce the risk of developing the disease.

INTRODUCTION

Globally, cardiovascular diseases, which include coronary heart diseases (heart attacks), cerebrovascular diseases (stroke), hypertension (raised blood pressure) and heart failure are the world's largest killer, claiming 17.1 million lives in a year. Of these deaths, about 7.2 million and 5.7 million were caused by coronary heart disease and stroke respectively.¹ In Singapore, cardiovascular diseases were the 2nd leading cause of death (16.4%) and 3rd leading cause of hospitalisation (3.4%) in 2011.²

Acute myocardial infarction (AMI), also commonly known as heart attack, occurs when the blood vessels supplying nutrients and oxygen to the heart are blocked. This can lead to damage or death (infarction) of the affected heart tissue if not treated promptly. The most common cause of blockage is due to a build-up of fatty deposits in the inner walls of the blood vessels (atherosclerosis).

AMI TRENDS

- The overall number and rates of AMI have been increasing over the last three years (Figure 1).
- The rates of AMI increase with age (Table 1).
- The numbers and incidence rates of AMI among males were roughly twice that among females (Figure 2, Table 2).

¹ Fact Sheet, World Health Organization

² Health Facts Singapore, MOH

- The age-standardised rates (ASRs) of AMI for Malays and Indians were about 2 – 2.5 times that of Chinese. The ASR among Malays has shown an upward trend since 2009 (Figure 3).
- High blood pressure (hypertension), high blood cholesterol (hyperlipaemia), diabetes, tobacco use, obesity, excessive alcohol consumption, physical inactivity are some of the common risk factors of heart attacks (Figure 4).
- High blood pressure and high blood cholesterol are some of the most common risk factors for patients with heart attacks in Singapore.
- The prevalences of hypertension and hyperlipaemia appear to be rising among AMI patients.
- Approximately 6 times more males were smokers or ex-smokers as compared to females (Figure 5).
- Females were more likely to have hypertension, diabetes or hyperlipaemia compared to males.
- Chinese patients had the highest proportions of hypertensives, Malays had the highest proportions of smokers while Indians had the highest proportions of diabetics and patients with high cholesterol (Figure 6).
- In the general population, Malays had the highest proportions of hypertensives and hyperlipaemics.³
- The proportions of hyperlipaemics have been rising among Malay and Indian patients while the proportion of hypertensives has been rising among Indian patients.

What is the trend of heart attacks in Singapore?⁴

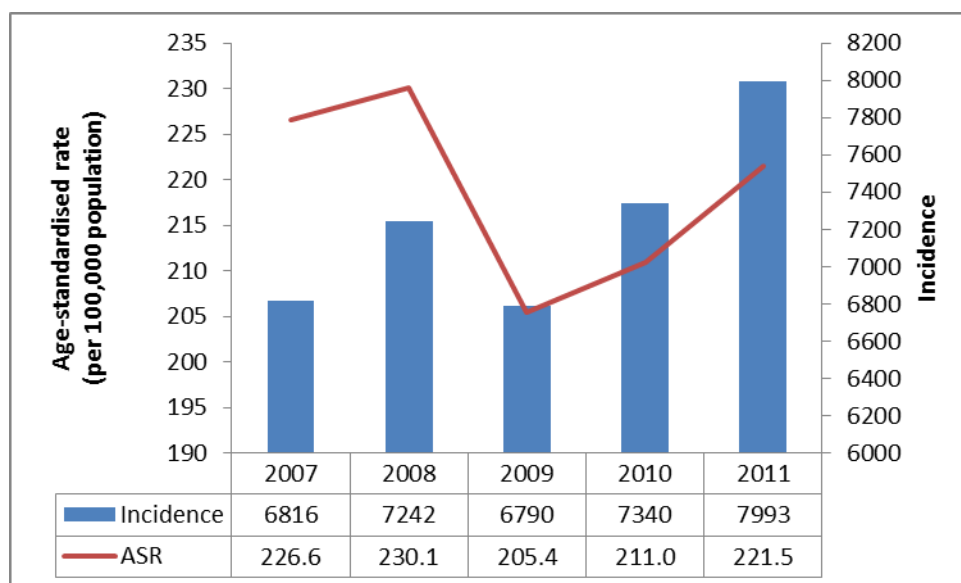


Figure 1. Incident cases and Age-standardised incidence rates of AMI

³ National Health Survey 2010, Epidemiology & Disease Control Division, MOH.

⁴ The data presented in this paper refer to Singapore citizens and PRs with AMI from 2007 to 2011 as they stood on 5th November 2013.

Rates, Age Group (Incidence)

Age range	2007	2008	2009	2010	2011
18-19	0.0	0.0	1.0	0.0	0.0
20-24	0.0	1.3	0.0	1.2	0.8
25-29	3.9	2.7	4.4	3.3	3.8
30-34	8.5	9.0	9.4	8.4	8.4
35-39	30.5	30.6	26.5	28.4	31.9
40-44	72.9	70.9	71.3	70.4	69.1
45-49	149.0	130.5	132.1	141.5	153.1
50-54	229.7	240.7	218.9	247.1	222.3
55-59	321.4	333.5	315.4	326.9	325.9
60-64	476.8	513.7	462.0	424.2	482.5
65-69	711.8	714.2	621.3	602.0	689.5
70-74	1090.3	1080.0	948.5	979.5	983.0
75-79	1573.9	1601.0	1477.3	1410.1	1529.1
80-84	2132.9	2334.3	1830.6	2022.6	2118.5
85+	3036.3	2988.7	2462.1	2925.2	3012.9

Table 1. Age-specific incidence rates (per 100,000 population) of AMI

Numbers and Rates, Gender (Incidence)

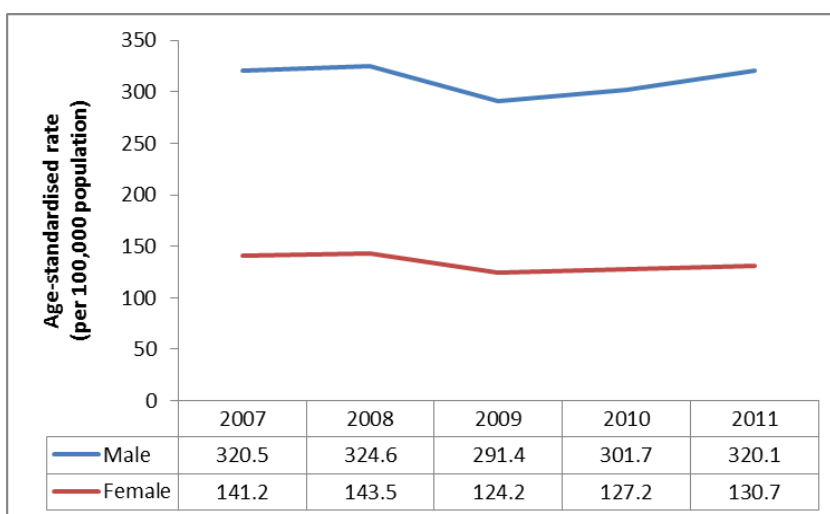


Figure 2. Age-standardised incidence rates of AMI by Gender

Gender	2007	2008	2009	2010	2011
Male	4419	4679	4459	4795	5291
Female	2397	2563	2331	2545	2702

Table 2: Number of AMI cases by Gender

Numbers and Rates, Ethnicity (Incidence)

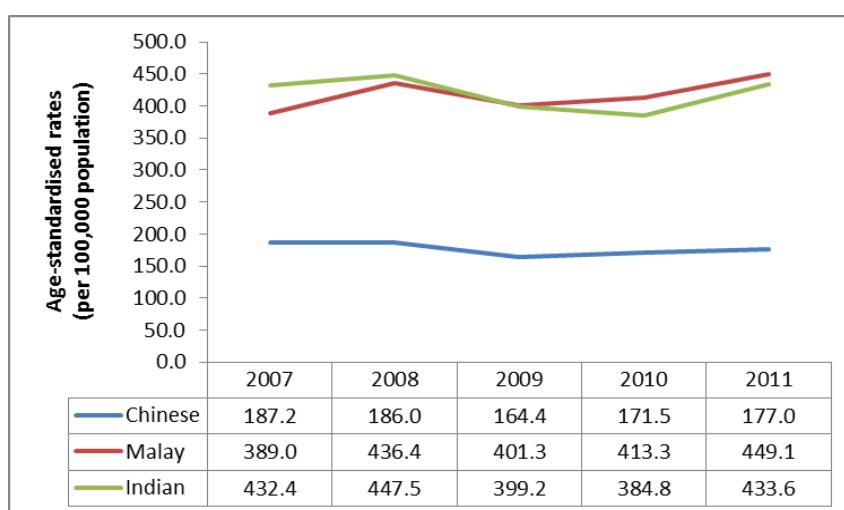


Figure 3. Age-standardised incidence rates of AMI by Ethnicity

Gender	2007	2008	2009	2010	2011
Chinese	4629	4811	4452	4903	5286
Malay	1170	1374	1336	1445	1585
Indian	877	950	892	889	1024

Table 3: Number of AMI cases by Ethnicity

What are the risk factors for heart attacks?

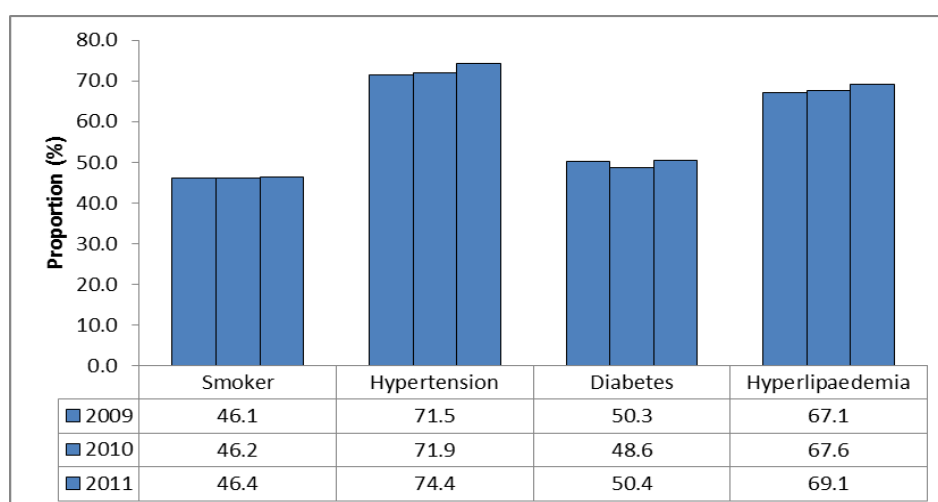


Figure 4. Proportion of risk factors⁵ among AMI patients

⁵ Risk factor prevalences reflect either patients newly diagnosed or with a history of the risk factor. Smoker prevalence includes both current and ex-smoker.

Proportion of Risk Factors, By Gender

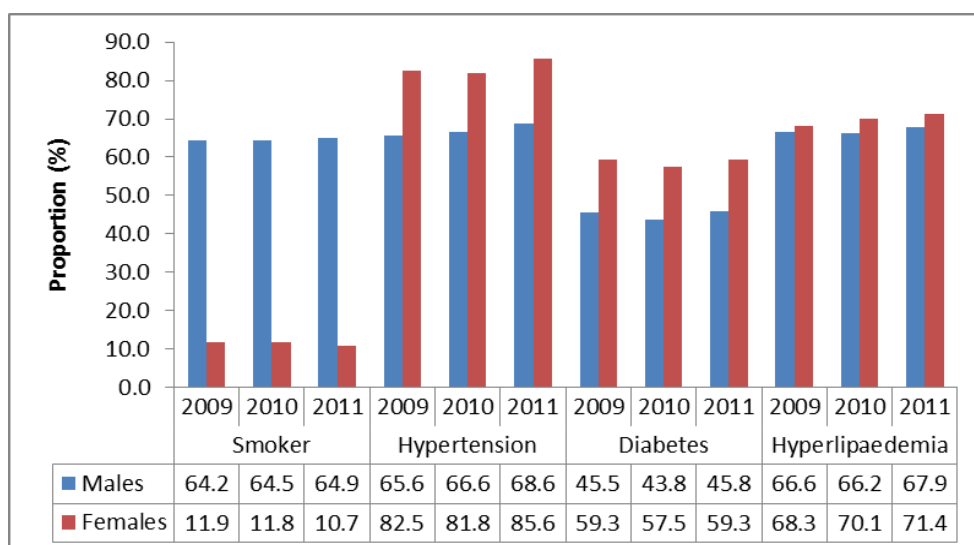


Figure 5. Proportion of risk factors by Gender among AMI patients

Proportion of Risk Factors, By Ethnicity

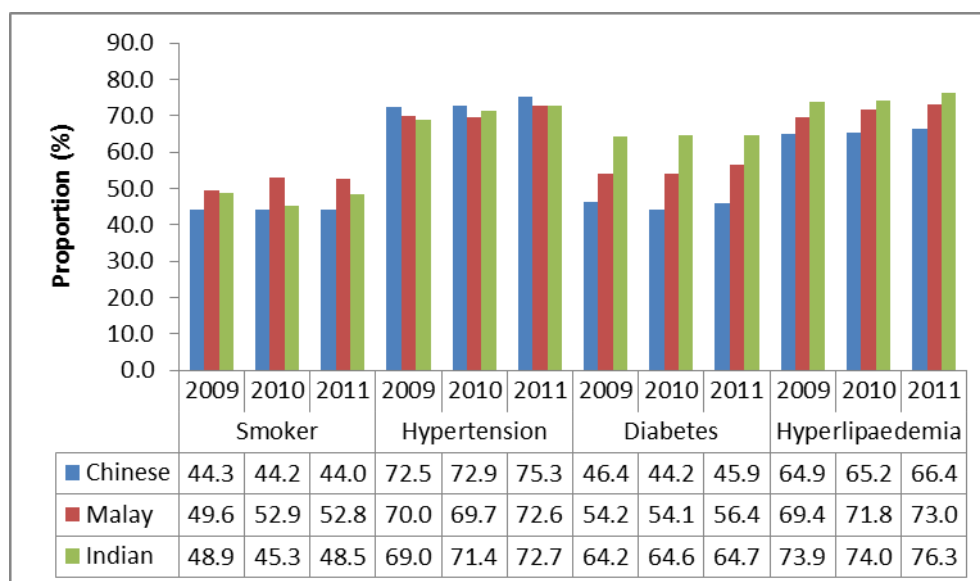


Figure 6. Proportion of risk factors by Ethnicity among AMI patients

How can I prevent a heart attack?

Heart attacks can be prevented by adopting a healthy lifestyle for you and your family. At least 80% of deaths from heart diseases and stroke can be prevented if the risk factors such as smoking, unhealthy diet and physical inactivity are taken care of.⁶ Some ways to practise healthy lifestyle include:

- Change your lifestyle by maintaining a healthy weight, engaging in regular physical activity and eating a heart healthy diet if you are at high risk for heart attacks.
- If you smoke, ask for help to quit the habit. Seek advice from your doctor or call the [QuitLine](#) (Toll Free: 1800 438 2000).
- Learn to manage your stress and control your levels of anger as these may raise your risk of heart attack.
- Reduce your alcohol consumption.
- Stay in touch with friends and family for support and care.
- Go for regular medical checkups so that if you have high blood pressure, high blood cholesterol and diabetes, early measures can be taken to prevent heart attacks.

When should I go for screening of cardiovascular risk factors?

Who is eligible?	What do I screen for?	What test is used?	How often should I go?
Men and women aged 40 and above	Obesity	Body Mass Index (BMI) measurement	Once a year
	High blood pressure (hypertension)	Blood pressure measurement	Once every two years or more frequently as advised by your doctor
	Diabetes mellitus	Blood test (fasting blood glucose)	Once every three years or more frequently as advised by your doctor
	High blood cholesterol (hyperlipidaemia)	Blood test (fasting blood cholesterol)	Once every three years or more frequently as advised by your doctor

Where do I get more information?

For more detailed information on heart attacks in Singapore, visit the following websites:

Health Promotion Board: <http://www.hpb.gov.sg/HOPPortal/dandc-article/530>

Singapore Heart Foundation: <http://www.myheart.org.sg/>

World Health Organization: http://www.who.int/cardiovascular_diseases/en/

World Heart Federation: <http://www.world-heart-federation.org/>

⁶ World Heart Federation